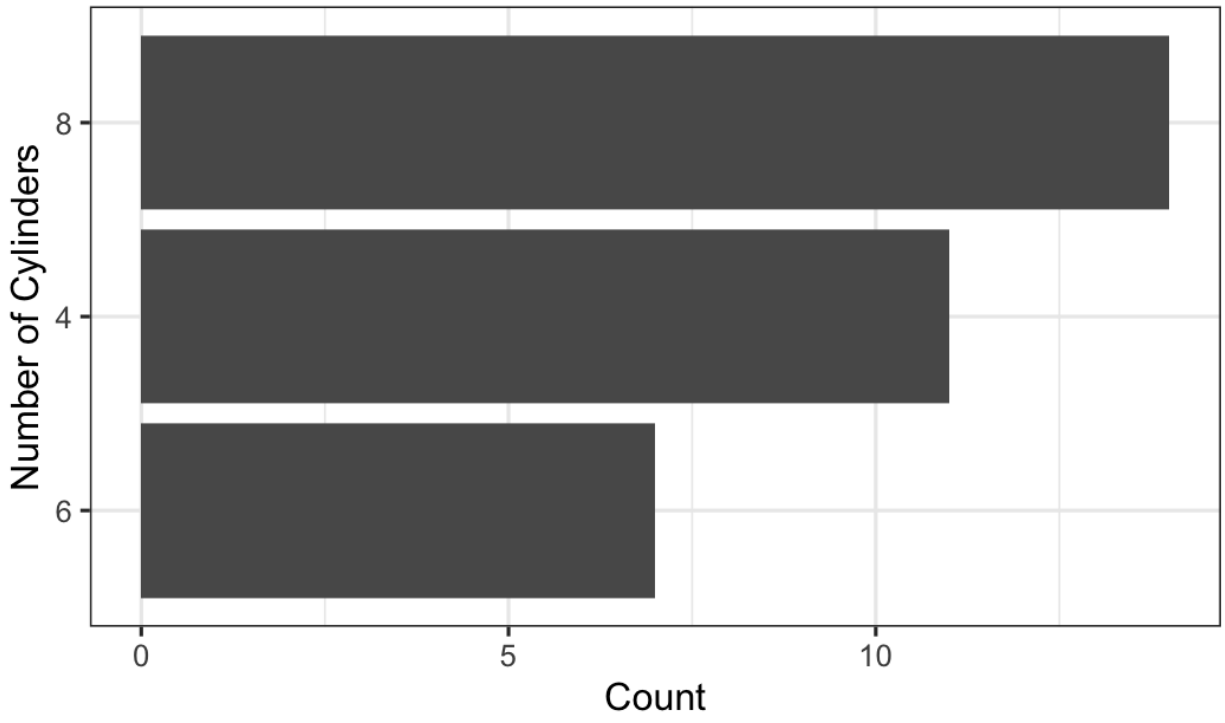
Bar Graphs

ggplot(data=mtcars,
mapping = aes(x = as.factor(cyl))) + geom_bar() + xlab("Number of cylinders") + ylab("Number of cars")

Flip the axes

```
ggplot(data=mtcars,

mapping = aes(x = reorder(cyl, cyl, FUN=table))
) + geom_bar(stat="count") + xlab("Number of Cylinders") +
 ylab("Count") + coord_flip()
```

*add coord_flip() and that flips the axes, REMEMBER TO CHANGE THE LABELS AS WELL



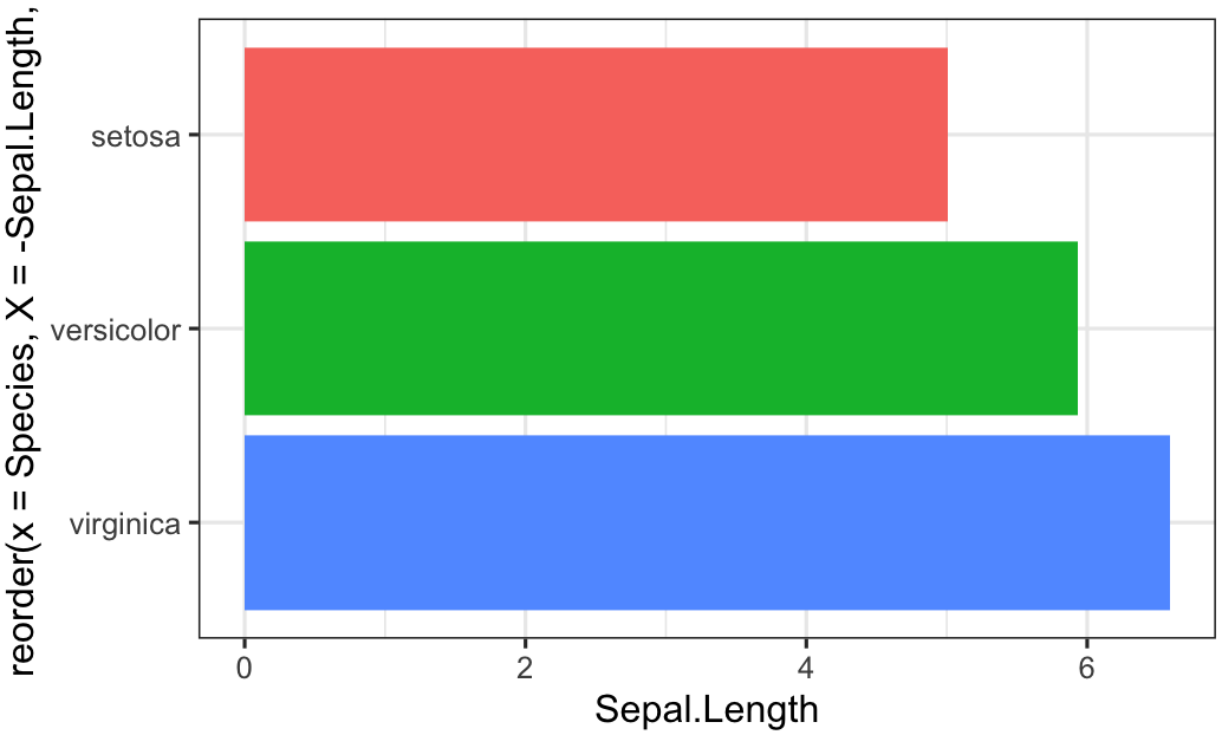
Reorder in Terms of Count

```
ggplot(data=mtcars,
    mapping = aes(x = reorder(cyl, cyl, FUN=table))) + geom_bar(stat="count") +
    xlab("Number of Cylinders") + ylab("Count") + coord_flip()
```

Find and PLOT Mean

```
ggplot(data = iris,
    mapping = aes(x = Species,
                  y = Sepal.Length)) + geom_bar(stat="summary", fun="mean") +
    coord_flip() + xlab("Species") + ylab("Sepal Length (mm)")
```

Other functions such as fun = “sd” for standard deviation



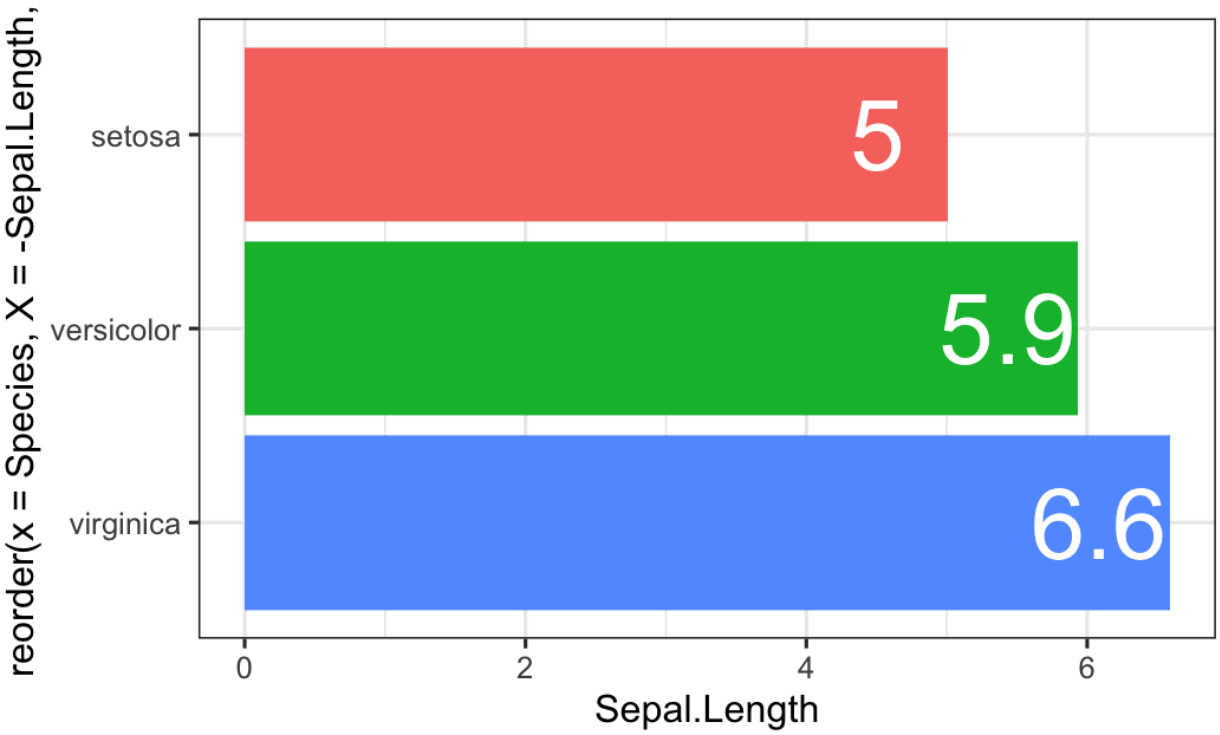
Reverse Order of Mean

```
ggplot(data = iris, mapping = aes(x =
reorder(x = Species,
                X = -Sepal.Length, # reverse orde
                FUN = mean),
y = Sepal.Length)) +
geom_bar(stat="summary", fun="mean") + coord_flip() +
xlab("Species") + ylab("Sepal Length (mm)")
```

X indicates order, - indicates reversed order

Add Text to Bars

```
ggplot(data = iris,
       mapping = aes(
         x = reorder(
           x = Species,
           X = -Sepal.Length,
         ),
         fill = Species,
         y = Sepal.Length
       )) + geom_bar(stat="summary", fun="mean") +
geom_text(mapping =
                        aes(label = round(after_stat(y), digits
            stat = "summary",
            fun = "mean",
            nudge_y = -0.5,
            color = "white",
            size = 10) +
    coord_flip() + theme(legend.position="None")
```



Color

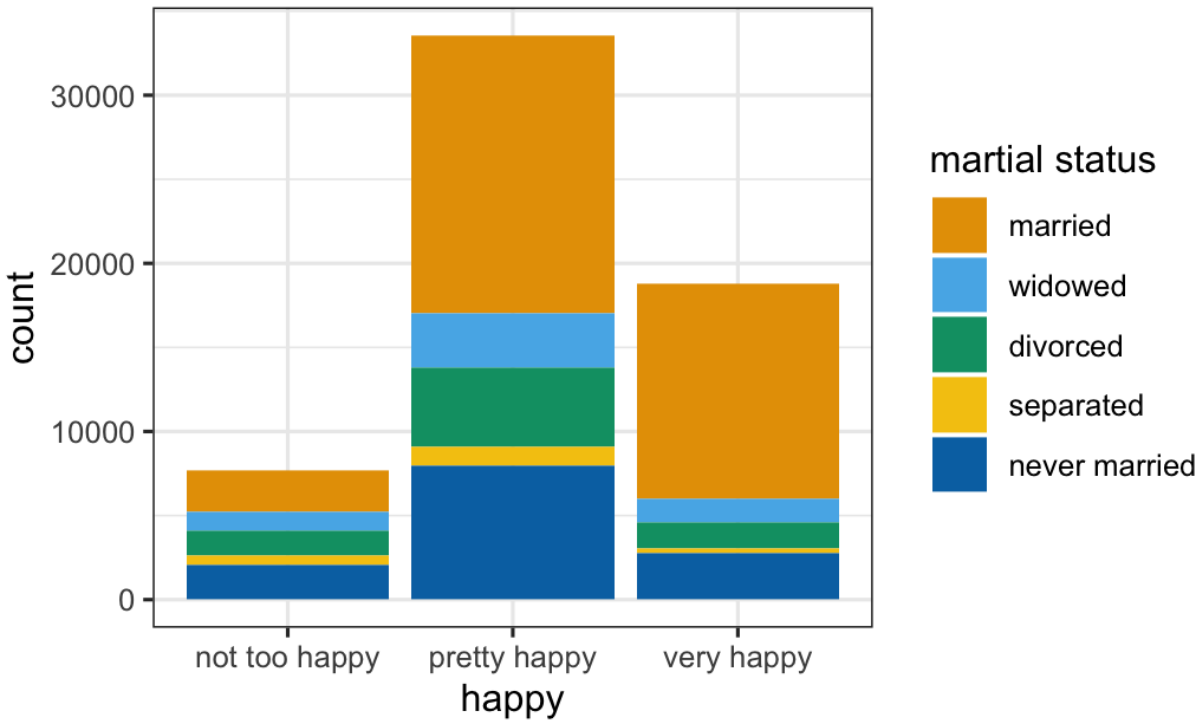
```
ggplot(data = iris, mapping = aes(x =
reorder(x = Species,
    X = -Sepal.Length, # reverse order
    FUN = mean),
    y = Sepal.Length,
    fill = Species)) +
    geom_bar(stat="summary", fun="mean") + coord_flip() + xlab("Species") +
    ylab("Sepal Length (mm)") +
    theme(legend.position="None")
```

*If you dont want a legend, do theme(legend.position=”None”)

fill=Species for Color

Stacked Bar Graphs

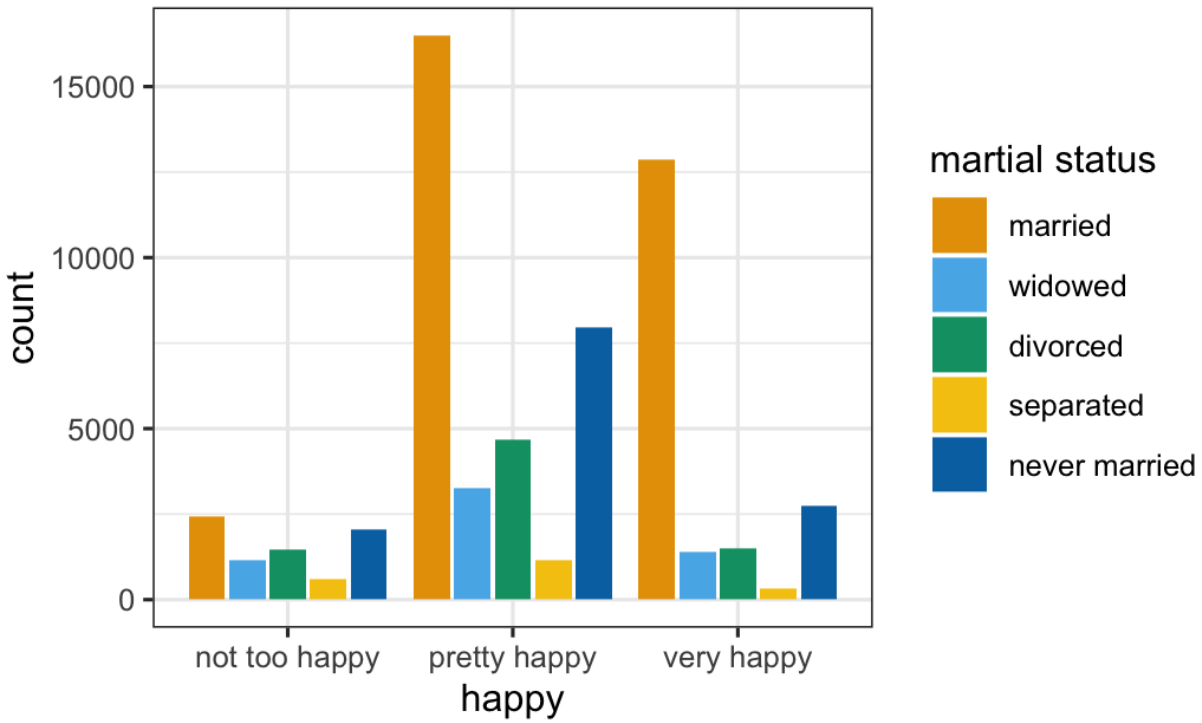
```
library(RColorBrewer)
library(ggmosaic)
library(see)

ggplot(data = happy_complete,
mapping = aes (x = happy, fill = marital,
)) + geom_bar() +  scale_fill_okabeito(name = "martial status")
```



Grouped Bar Graphs

```
ggplot(data = happy_complete,
mapping = aes (x = happy, fill=marital,
```

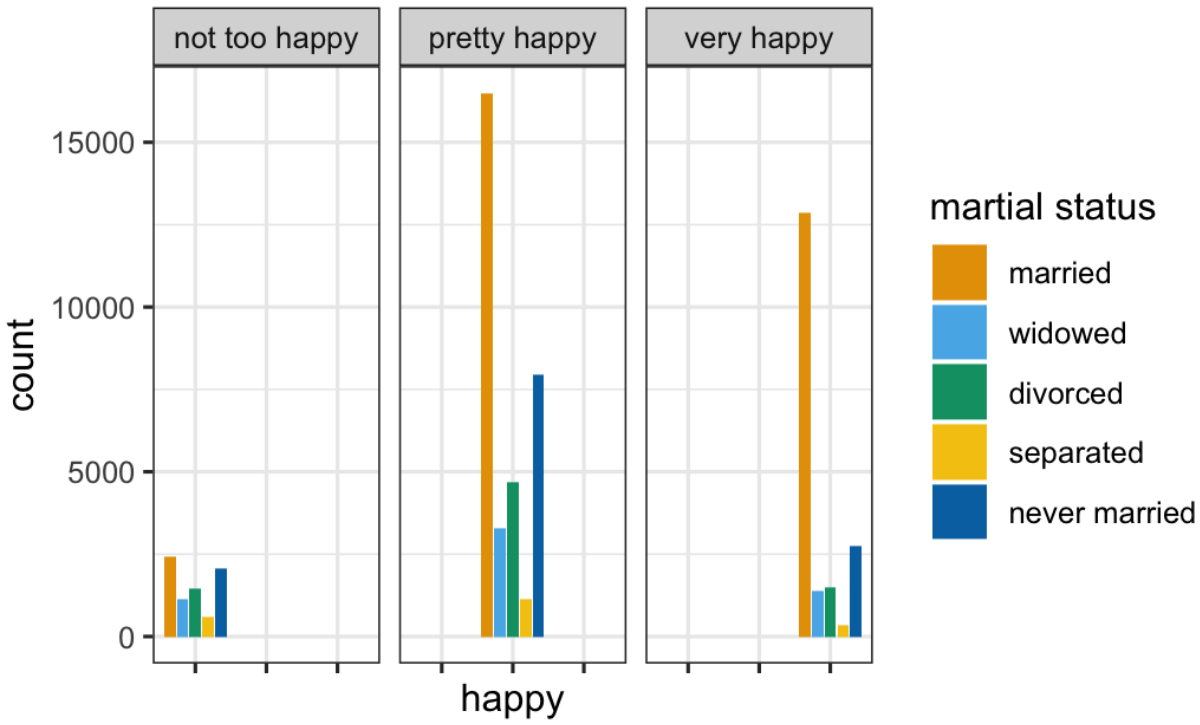
```
)) + geom_bar(position = position_dodge2())+
scale_fill_okabeito(name = "martial status")
```



Multipanel Graph

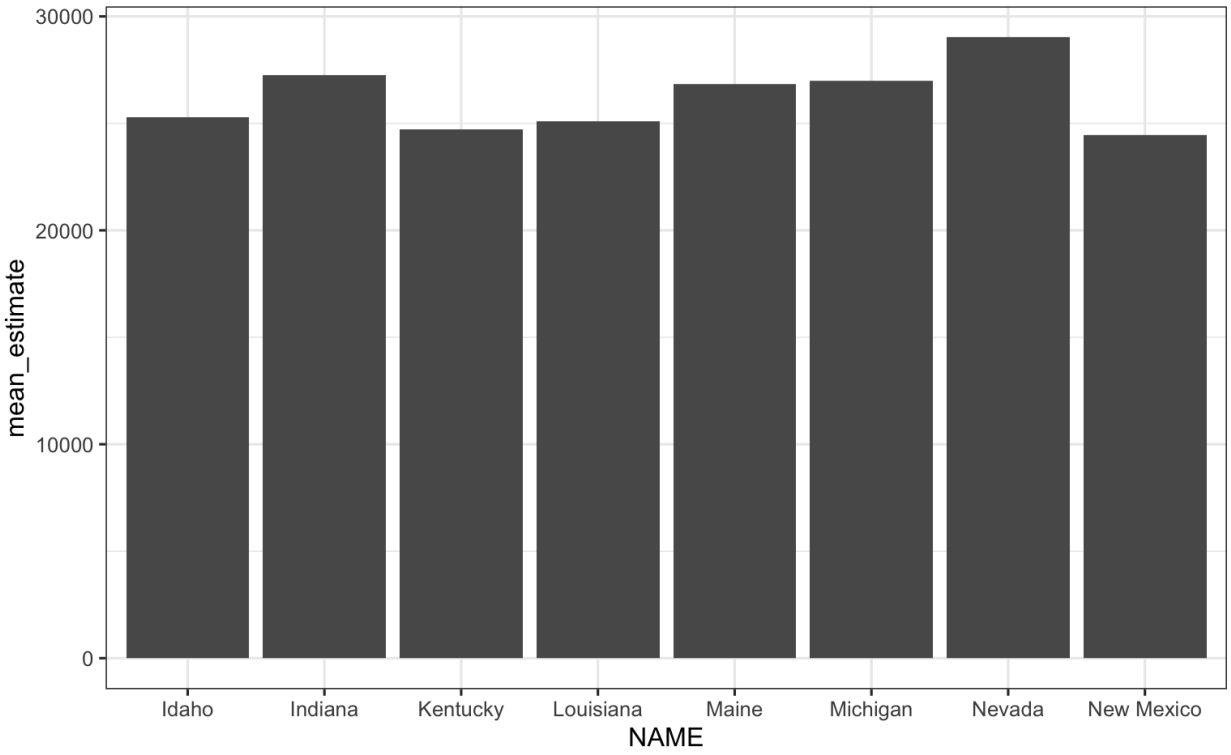
```
ggplot(data = happy_complete,
mapping = aes (x = happy, fill=marital,
)) + geom_bar(position = position_dodge2())+
 scale_fill_okabeito(name="marital status")+
  facet_grid(~ happy) +
theme(axis.text.x = element_blank())
```

Removes the x axis labels

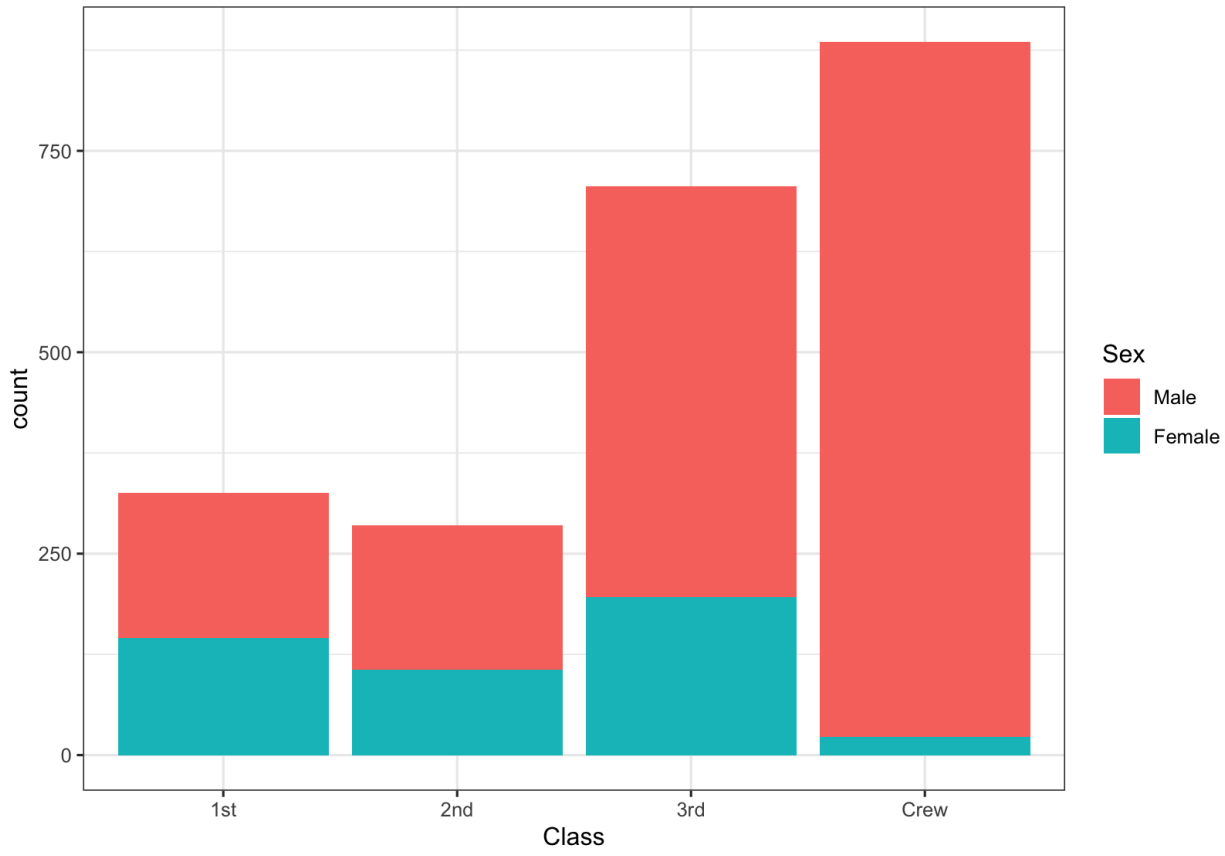


geom_col

```
us_income_small <- us_income_summary[which(us_income_summary$NAI
c("Nevada", "New Mexico", "Indiana", "Maine", "Idaho", "Michigar


ggplot(data = us_income_small,
       mapping = aes(
         x = NAME,
         y = mean_estimate
       )) + geom_col()
```




```
data("titanic")
ggplot(data = titanic,
      mapping = aes(
        x = Class,
        fill = Sex
      )) + geom_bar(stat="count")
```


750
500
250
0
count
1st
2nd
3rd
Crew
Class
Sex
Male
Female